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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/554,916	10/31/2005	Emil Zellweger	Q90959	9776

23373 7590 07/11/2007
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EXAMINER

KARACSONY, ROBERT

ART UNIT	PAPER NUMBER
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2821

MAIL DATE	DELIVERY MODE
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07/11/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/554,916

Applicant(s)

ZELLWEGER ET AL.

Examiner

Robert Karacsony

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>05142007</u> . | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

Applicant's arguments and amendments filed on May 14, 2007 have been received and entered in the case. Claims 12-22 are pending.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 12 and 18-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Koyama (US 6,531,988, hereinafter Koyama).

Interpretation 1:

Claim 12: Koyama teaches a wristwatch (100) including a case (4) at least one part of which is electrically conductive (7, col. 3/line 22) and in which are housed an electronic module (8) including a printed circuit board (2) and an electric power source (6) for powering said electronic module (col. 6/lines 22-23), said wristwatch further including an antenna (1) provided with a ground plane (15), said printed circuit board having, at its periphery (outer surface of circuit substrate 2), a mechanical contact zone (bottom surface of circuit substrate 2) bearing on said electrically conductive part of the case (fig. 1),

wherein the antenna and the ground plane are arranged on the top face of said printed circuit board (fig. 1), said top face being arranged on the side of a display device (10) of the wristwatch, and wherein said printed circuit board includes a conductive track (18) electrically connected to said ground plane, said conductive track extending at the periphery of said printed

circuit board (fig. 8), over said mechanical contact zone (fig. 9), in such a way as to establish an electric contact between said conductive track and said electrically conductive part of the case (col. 3/lines 22-27 discloses the ground plane and case in electric contact with each other, therefore, there is electric contact between said conductive track and said electrically conductive part of the case) so as to enlarge the ground plane of said antenna in directions extending substantially in the extension of said ground plane (the ground plane and case back are parallel to each other, therefore, the ground plane of said antenna is enlarged in directions extending substantially in the extension of said ground plane), the enlargement being located substantially in the plane containing the ground plane of the antenna (18 is considered part of the ground plane enlargement and is in contact with the ground plane, therefore, the enlargement is located substantially in the plane containing the ground plane of the antenna).

Claim 19: Koyama teaches said electrically conductive part of the case is electrically connected to a pole of determined electric potential of the electric power source (col. 10/lines 41-46), said electrically conductive part of the case being used to bring said determined electric potential to said electronic module via said conductive track (7, 8 and 18 are all in direct electric contact).

Claim 20: Koyama teaches said electrically conductive part of the case is brought to a determined electric potential (determined electric potential is the electric potential of the ground pattern) via said conductive track (the electrically conductive part of the case will be brought to the electric potential of the ground pattern via the conductive track).

Claim 21: Koyama teaches said conductive track extends over substantially the entire periphery of the printed circuit board (fig. 8 illustrates 17, which is an extension of the ground plane, extending over substantially the entire periphery of the circuit substrate).

Claim 22: Koyama teaches said conductive track extends over at least a part of the periphery of the printed circuit board located in the proximity to said ground plane (fig. 8).

Interpretation 2:

Claim 12: Koyama teaches a wristwatch (100) including a case (4) at least one part of which is electrically conductive (7, col. 3/line 22) and in which are housed an electronic module (8) including a printed circuit board (2) and an electric power source (6) for powering said electronic module (col. 6/lines 22-23), said wristwatch further including an antenna (1) provided with a ground plane (15), said printed circuit board having, at its periphery (outer surface of circuit substrate 2), a mechanical contact zone (bottom surface of circuit substrate 2) bearing on said electrically conductive part of the case (fig. 1),

wherein the antenna and the ground plane are arranged on the top face of said printed circuit board (fig. 1), said top face being arranged on the side of a display device (10) of the wristwatch, and wherein said printed circuit board includes a conductive track (It is well known in the art that circuit boards comprise conductive tracks) electrically connected to said ground plane, said conductive track extending at the periphery of said printed circuit board (examiner interprets the periphery to mean “the external boundary of any surface or area”, thus, said conductive track is extending at the periphery of said printed circuit board), over said mechanical contact zone (fig. 9), in such a way as to establish an electric contact between said conductive track and said electrically conductive part of the case (col. 3/lines 22-27 discloses the ground

plane and case in electric contact with each other, therefore, there is electric contact between said conductive track and said electrically conductive part of the case) so as to enlarge the ground plane of said antenna in directions extending substantially in the extension of said ground plane (the ground plane and case back are parallel to each other, therefore, the ground plane of said antenna is enlarged in directions extending substantially in the extension of said ground plane), the enlargement being located substantially in the plane containing the ground plane of the antenna (the conductive track is considered part of the ground plane enlargement and is in contact with the ground plane, therefore, the enlargement is located substantially in the plane containing the ground plane of the antenna).

Claim 18: Koyama teaches said conductive track is arranged on a first face of the printed circuit board (top surface of PCB) and is electrically connected to other conductive tracks (17) of the electronic module via metallised holes (18).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koyama in view of Bokhari et al. (US 5,646,634).

Claim 13: Koyama teaches all of the limitations of claim 12, as discussed above.

Koyama fails to teach said antenna is a micro-strip antenna including a radiating element arranged substantially parallel to said ground plane. However, Bokhari et al. teach a microstrip

Art Unit: 2821

antenna suitable for use in watches (col. 1/lines 45-47) that are able to emit and/or to receive GPS (Global Positioning System) signals (col. 1/lines 8-19), which is compact, and relatively simple and inexpensive to manufacture (col. 1/lines 39-41). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the microstrip antenna of Bokhari et al. as the antenna element of Koyama in order to have utilized its small size and relatively simple and inexpensive manufacturing cost benefits.

If the modifications to the invention of Koyama were made, as discussed above, one with ordinary skill in the art would have realized that the microstrip antenna of Bokhari et al. would have had its radiating element arranged substantially parallel to said ground plane.

5. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koyama in view of DeSantis et al. (US 5,244,395).

Claim 14: Koyama teaches all of the limitations of claim 12, as discussed above.

Koyama fails to teach it includes an electrically conductive strip made of compressible material that is inserted, on said mechanical contact zone, between said electrically conductive part of the case and said conductive track. However, DeSantis et al. teach electrically connecting a metal frame of a two-radio to the ground of the PCB (col. 3/lines 5-11) using a conductive elastomer (elastomers are compressible), which provides an effective electrical interconnection when the two surfaces are not smooth or parallel (col. 3/lines 51-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the conductive elastomer of DeSantis et al. with the invention of Koyama in order to have provided an effective electrical interconnection between the PCB and the case.

Claim 15: Claim 15 is rejected for substantially the same reasons as claim 14, as discussed above. (If the combination had been made, as discussed above, one with ordinary skill in the art would have realized the conductive elastomer would be compressed between the PCB and the shoulder (Koyama – fig. 1, the outermost higher step-up in case back, 7) of the electrically conductive part of the case)

Claim 16: Koyama teaches it further includes a support element (screws) exerting a pressure at several points of the periphery of said printed circuit board where said electrically conductive strip is compressed. (col. 6/lines 28-29, the screws used to secure the front and back casing of Koyama will exert a pressure at several points of the periphery of said printed circuit board where said electrically conductive strip is compressed)

Claim 17: Claim 17 is rejected for substantially the same reasons as claim 14, as discussed above.

Response to Arguments

6. Applicant's arguments with respect to claims 12- 22 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Karacsony whose telephone number is 571-270-1268. The examiner can normally be reached on M-F 7:30 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W. Owens can be reached on 571-272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RK *RK*

/Hoang V. Nguyen/
Primary Examiner, AU 2821